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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,261	08/01/2003	Kent Charles Burr	129640-1	5497
6147 7590 11/29/2007 GENERAL ELECTRIC COMPANY GLOBAL RESEARCH PATENT DOCKET RM. BLDG. K1-4A59 NISKAYUNA, NY 12309			EXAMINER VARGOT, MATHIEU D	
			ART UNIT 1791	PAPER NUMBER
			NOTIFICATION DATE 11/29/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ldocket@crd.ge.com  
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parkskl@crd.ge.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/632,261	<b>Applicant(s)</b> BURR, KENT CHARLES	
	<b>Examiner</b> Mathieu D. Vargot	<b>Art Unit</b> 1791	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 October 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 1-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 26-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 26-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over either of Iversen or Corbeil et al in view of either of Mir et al (see col. 8, line 61 through col. 9, line 14) or Borrelli et al (see col. 1, lines 37-38; col. 7, lines 51-61).

Either of Iversen or Corbeil et al disclose a method of patterning a scintillator element wherein a laser is used to create three dimensional patterns in the element by cutting away sections (Iversen) or creating microvoids within the element (Corbeil et al), the primary references failing to teach using the laser so that discrete locations within the element have their optical properties changed so that they become crystalline in otherwise non-crystalline material. Each of Mir et al and Borrelli et al disclose making waveguides in ceramic or glass material by using a laser to selectively densify certain discrete portions so irradiated so that the laser treated portions become crystalline in an otherwise non-crystalline material. Since the basic function of the scintillator elements in the primary references is that of a waveguide—ie, to guide X-rays and gamma rays—it is submitted that one of ordinary skill in the art would have knowledge of the methods used in the secondary references to selectively pattern the scintillator elements. The secondary references are directed to making waveguides. While the primary references use the laser to remove material or cause a physical damage to the scintillator element, Borrelli et al (see col. 1, lines 37-38) teaches that this use, as well as effecting an index

change (ie, densification or crystallization) as in the instant, are both well known functions of laser treatment on waveguide materials. It would have been obvious to one of ordinary skill in the art to modify the method of either primary reference by effecting an optical property change without actually damaging the scintillator element as taught in either secondary reference dependent on the exact method desired to perform the patterning. Clearly, the removal of material would require more intense heating and higher operational costs, as well as the possibility of scorching the scintillator material. One of ordinary skill in the art would be led to perform the less drastic heating taught in the secondary references to avoid these problems. Either primary reference teaches first and second intersecting parallel planes to thereby form a plurality of cells. The primary references teach single crystal and ceramic elements and the secondary references teach changing the optical property without adding or removing any material—ie, the optical property is changed by changing the refractive index through densification, or crystallization. Having the localized crystalline spots being smaller than the focal spot of the laser would be an obvious feature of the laser treatment in the secondary references dependent on the exact size of the area desired to be made crystalline.

2. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

In view of the amendment, new art has been applied which renders applicant's comments with respect to Iversen alone—ie, as a 102 reference—now not in point.

While Iversen and newly applied Corbeil et al remove material to pattern the scintillator,

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the secondary references teach what applicant is doing, namely patterning a waveguide by applying a laser at discrete spots within a material to change the refractive index at these spots and render these spots crystalline—ie, the material is densified at the spots. Again, it is submitted that since the primary references are in fact forming waveguides, the teachings of the secondary references would have been known and used by one of ordinary skill in the art. In that sense, the secondary references constitute analogous art that solves the instant problem of patterning waveguides at discrete spots within the waveguide material.

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mathieu D. Vargot whose telephone number is 571 272-1211. The examiner can normally be reached on Mon-Fri from 9 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson, can be reached on 571 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. Vargot  
November 25, 2007

  
Mathieu D. Vargot  
Primary Examiner  
Art Unit 1791

11/25/07